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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/540,600

06/24/2005

Tetsuro Takamatsu

TLO-2-PCT/Minori

4249

156 7590 05/31/2007
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EXAMINER

WONG, TINA MEI SENG

ART UNIT

PAPER NUMBER

2874

MAIL DATE

DELIVERY MODE

05/31/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/540,600

Applicant(s)

TAKAMATSU ET AL.

Examiner

Tina M. Wong

Art Unit

2874

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 April 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 8-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 8 and 10-14 is/are rejected.
- 7) ☒ Claim(s) 9 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 June 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application
- ☐ Other: _____.

DETAILED ACTION

This Office action is responsive to Applicant's response submitted 02 April 2007.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 8 and 10-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,404,545 to Ishiwata.

In regards to claims 8, 10, 13 and 14, Ishiwata discloses a microscope (Figure 3) comprising a light source (17), an objective lens (2) for focusing an irradiation light beam from the light source into a sample (1), a convergence (3) and collimation (18) lens, a phase varying means (14) arranged between the convergence and collimation lenses for varying the phase of the transmitted light beam in a given area and a rotating disc (13) having a plurality of phase plate segments having different optical characteristics (Figure 4).

But Ishiwata fails to specifically disclose the pair of lenses to be placed on the same axis as when the light source enters the objective lens. However, by placing the pair of lenses on either the same axis or different axes yields the same end result. The light beam passes through both lenses to converge and collimate the light beam. Furthermore, it has been held that rearranging parts of an invention involves only routine skill in the art (*In re Japikse*, 86 USPQ 70), therefore, it would have been obvious at the time the invention was made to a person having

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ordinary skill in the art to have placed the pair of lenses on the same or different axes since by either position yields the same end result.

Additionally, Ishiwata fails to specifically disclose stepwise adjusting a depth of an observation plane of the objective lens. However, Ishiwata does disclose a three dimensional image. Furthermore, Ishiwata also discloses adjusting/moving the phase varying means in order to obtain different points of information from the specimen. Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art for the adjustment to be at least a stepwise adjustment in depth since (1) the image is a three dimensional illumination and (2) moving the phase varying means, either stepwise or continuously, would meet the limitation of a stepwise movement since a continuous movement is actually multiple very small stepwise movements placed together closely in time.

In regards to claims 11 and 12, Ishiwata shows the phase varying means with a film having different thicknesses (12a & 12b; slits) and therefore different refractive indices so as to affect the different optical characteristics.

Allowable Subject Matter

Claim 9 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

In regards to claim 9, the prior art fails to disclose or reasonably suggest all of the limitations of the base claim (claim 8), any intervening claims (none) and further teach a scanner arranged between the light source and a pair of lenses, the scanner to include a microlens array disc, a Nipkow disc and a dichroic mirror between the microlens array disc and a Nipkow disc

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for transmitting the light beam from the light source while reflecting light returned from the sample.

Response to Arguments

Applicant's arguments filed 02 April 2007 have been fully considered but they are not persuasive. Applicant argues the rotating disc (12) of Ishiwata does not have a plurality of phase plate segments but an aperture pattern plate and cannot vary a phase of a transmitting light beam. However, the Examiner disagrees. Ishiwata teaches the rotating disc (12) to be a Nipkow disk, which Applicant discloses in the Specification (Page 9 and Page 12) as an example of a rotating disc. Since Ishiwata and Applicant both teach a Nipkow disk, the Nipkow disk of Ishiwata would also have a plurality of phase plate segments and vary a phase of the transmitting light beam. Further, Applicant states in the "Remarks" section that without varying the phase, a multilayered structure cannot be observed. However, Ishiwata teaches the apparatus to be able to illuminate a three-dimensional specimen, which therefore implies a multilayered structure can be observed.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

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CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tina M. Wong whose telephone number is (571) 272-2352. The examiner can normally be reached on Monday-Friday 8:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (571) 272-2344. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Tina M Wong
Patent Examiner
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